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Development of the Radiosonde Service

Within the German Democratic Republic

Since 1946

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THE DEVELOPMENT OF THE RADIOSONDE SERVICE WITHIN THE GERMAN DEMOCRATIC
REPUBLIC SINCE 1946

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with one illustration

During the war the Radiosonde Testing and Calibration Center (RSPZ) in the Lindenberg Aerological Observatory near Beeskow was operated for the radiosonde service of the Reich Weather Service Bureau. In September 1944 the center was moved to Strakonitz (Czechoslovakia) with most of the personnel and equipment. The rest followed in February 1945. Until March 1945, the last "Lang type" radiosondes were still being calibrated in Strakonitz.

After the collapse of the German Reich Weather Service in 1945, radiosonde stations in Germany no longer existed. We do not know with certainty to what extent the occupation troupes continued aerological ascents with pilot balloons and radiosones. Beginning January 1946, a series of high-altitude wind instruments using pilot balloons, uninterrupted to date, was resumed at Lindenberg Observatory. All the results of the measurements were published in the Zeitschrift für Meteorologie (Meteorological Journal), and as of 1951 will appear in part V of the Meteorologische Jahrbuch (Meteorological Yearbook).

In autumn 1946, a conference of directors of meteorological institutes, meeting in Paris, recommended to the Allied Control Council for Germany that a German radiosonde service with 13 stations should be permitted in Germany, of which 4 stations each should be distributed among the American, British, and Soviet

occupation zones, and one for the French. The author, former director of the Lindenberg Aerological Observatory was ordered to organize a German radiosonde service within the Soviet occupation zone, the present area of the German Democratic Republic. Lindenberg Observatory was to become the seat of the radiosonde center. After difficult preparations the service was started at Lindenberg in July 1947 with ascents once daily, using the "Lang type" radiosonde. At the same time the then existing provincial meteorological stations were ordered to prepare to take over the radiosonde stations administered by the occupation troops up till then. For this purpose a conference of all participants was held in Berlin in September of the same year to solve the numerous, extremely complicated problems connected with the establishing of such aerological measurements. The primary concern was over the supply of antennas, balloons, and transmitting tubes. Making available the necessary funds was also not simple. Lindenberg, Dresden, Greifswald, and Wernigerode were selected as measuring stations.

As a result of this radiosonde organizational conference the remaining radiosonde stations could begin service as German stations:

Wernigerode on 11 September 1947

Dresden on 30 September 1947, and

Greifswald on 1 March 1948.

At first the stations operated with Soviet sonde-instruments (Molchanov-Sonde) until it was possible to transfer to German equipment.

The "Lang type" sonde was used at:

Wernigerode as of 1 October 1947
Dresden as of 25 February 1948, and
Greifswald as of 1 February 1949.

It was very difficult to begin the required production on a zonal basis because of the non-existence of a centrally directed economics and financial office. In October 1945 the US Military Government did not authorize the application by the firm Fuess, Berlin-Steglitz, to produce the Lang radiosonde for the Soviet occupation zone. American authorities also prohibited, in June 1948, the production of radiosonde balloons in the Western Sector of Berlin if they were to be used to supply the meteorological service in the Eastern Zone. Thanks to intervention by the chairman of the former German Economic Commission, the present Deputy Minister President, Heinrich Rau, who had become acquainted with the needs of the new service during a visit to Lindenberg in May 1948, the Soviet Military Administration in Germany took proper steps to solve the most important problems of production and finance. We were now successful in finding production firms within the zone. Although the first balloons did not meet specified requirements, within a few months the quality was superior to that of the prewar years. On orders from the German Economic Commission, the author exhibited (at the "Instruments and Measurements Trade Fair" in Stockholm) in September 1949 the Eastern Zone production. The dipped-rubber balloons with 700 percent linear expansion and the special construction of filament batteries and anode batteries were especially noticed.

Two radiosonde-ascents, at 0300 and 1500 GMT daily, and additional high altitude wind measurements at 0300 and 2100 GMT daily are made by the four radiosonde stations. Since the beginning of the operation of the service no serious disturbance has occurred in the production of the entire radiosonde equipment, which is now produced within the German Democratic Republic. Only Wernigerode could not operate from August 1948 until January 1949 for administrative reasons.

A total of 7408 complete radiosondes were delivered from December 1948 until December 1950 by the Freiburger Werkstätten für Electromechanik (The Freiberg Electrical Machine Building Shops). With these, 7730 radiosonde ascents were made at the four radiosonde stations. (The difference between these totals is due to the fact that it was initially possible to secure greater quantities of old-stock which belonged to the former Reich Weather Service Bureau.)

	<u>1947</u>	<u>1948</u>	<u>1949</u>	<u>1950</u>	<u>Total</u>
Dresden	78	406	751	821	2056
Greifswald	--	--	769	828	1597
Lindenberg	185	440	792	856	2273
Wernigerode	<u>87</u>	<u>224</u>	<u>646</u>	<u>847</u>	<u>1804</u>
	350	1070	2958	3352	7730

The use of a notice to the finder was prohibited during the first years. Not until September 1949 was a notice to the finder attached to each sonde sent up, by which the finder is assured of 10 DM as a reward in addition to expenses for mailing and wrapping.

During 1949, 31 percent of the sondes were returned. Dresden, because of its favorable location had an annual average of 44.2 percent. Thanks to advertisement on the radio, in the daily newspapers, by police and schools, the percentage of returned sondes was increased to 43 percent in 1950. This time Wernigerode was first with 58.2 percent. The Federal Bank saved approximately 50,000 DM in addition to the valuable raw materials as a result of the returned sondes.

The working accommodations of the radiosonde stations initially were very primitive and everywhere inadequate. Some buildings could however, be erected for Dresden, Wernigerode, and Lindenberg during 1950. (See illustration)

The New Radiosonde Station at Lindenberg

A central authority was created by the establishment of the Government of the German Democratic Republic in 1949, to which the provincial governments were subordinated. For the future all competency and supply difficulties of material and funds were eliminated, which formerly often endangered the development of the service. At the same time it was possible in 1950 to achieve the merger of the

Meteorological Service of the German Democratic Republic. Within the administrative framework of this Meteorological Service a special division subordinated to the author was set up in Berlin-Rummelsburg for the radiosonde service, which is responsible for the organization, and the industrial and scientific work of the entire radiosonde service. In cooperation with the main radiosonde office in Berlin-Rummelsburg, it is concerned with the central procurement of the reserve supplies, the calibration of the meteorological part of the radiosondes, the assembly of the radiosonde parts, and the dispatching of the finished radiosondes and the radiosonde equipment belonging to them. The administration of the radiosonde service takes care of the organization, production supervision, technical direction, development, and production control of the radiosonde service, of investigations of instruments in the laboratory and in ascent operations, and of the scientific reduction of the aerological material.

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